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APPLICATION NO.	CATION NO. FILING DATE		FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,496 12/30/2004		2/30/2004	Yuzo Yoneyama	Y0647.0150	5396
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NEW YORK	, NY 100	036-2714	2857		

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

• •			n No.	Applicant(s)					
		10/519,49	3	YONEYAMA, YUZO					
	Office Action Summary	Examiner		Art Unit					
		Jeffrey R. \	Vest *	2857					
	The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply								
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).									
Status				•					
1)	Responsive to communication(s) filed	on 12 April 2006.	•	•					
•	·	)⊠ This action is no	on-final.						
•	Since this application is in condition for	or allowance except	or formal matters, pro	secution as to the merits is					
·	closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.								
Disposition of Claims									
4)⊠	4)⊠ Claim(s) <u>1-8</u> is/are pending in the application.								
4a) Of the above claim(s) is/are withdrawn from consideration.									
5) Claim(s) is/are allowed.									
6)⊠	Claim(s) <u>1-8</u> is/are rejected.								
•	Claim(s) is/are objected to.								
8)	Claim(s) are subject to restriction	on and/or election re	quirement.	•					
Applicati	on Papers		•						
9)⊠	The specification is objected to by the	Examiner.							
10)🖾	The drawing(s) filed on <u>30 December 2</u>	<u>2004</u> is/are: a)∐ ac	cepted or b)⊠ object	ed to by the Examiner.					
	Applicant may not request that any objecti	on to the drawing(s) be	e held in abeyance. See	37 CFR 1.85(a).					
	Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).								
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.									
Priority ι	ınder 35 U.S.C. § 119		•						
12)⊠ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a)⊠ All b)☐ Some * c)☐ None of:									
	1. Certified copies of the priority documents have been received.								
	2. Certified copies of the priority documents have been received in Application No								
	3. Copies of the certified copies of the priority documents have been received in this National Stage								
application from the International Bureau (PCT Rule 17.2(a)).									
* See the attached detailed Office action for a list of the certified copies not received.									
					•				
Attachment(s)									
	e of References Cited (PTO-892) e of Draftsperson's Patent Drawing Review (PTO	0-948)	4) Interview Summary Paper No(s)/Mail Da	(PTO-413) ite.					
3) 🛛 Infor	mation Disclosure Statement(s) (PTO-1449 or P		5) Notice of Informal P	atent Application (PTO-152)					
Pape	r No(s)/Mail Date <u>12/30/04</u> .		6)  Other:						

#### **DETAILED ACTION**

# Response to Amendment

1. In the preliminary amendment filed December 30, 2004, Applicant has attempted to amend paragraphs beginning on line 5 of page 1, line 18 of page 22, line 6 of page 23, line 17 of page 23, and line 24 of page 23. The proposed amendments of the paragraphs beginning on line 18 of page 22, line 6 of page 23, line 17 of page 23, and line 24 of page 23 cannot be entered, however, since the specification as originally filed already contains the proposed changes. Therefore, only the amendment to the paragraph beginning on line 5 of page 1 has been entered.

# Drawings

2. Figure 6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### Specification -

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3. The disclosure is objected to because of the following informalities:

The disclosure is objected to because of the unknown symbols present on page

3, line 26, and page 4, lines 4, 7, 11, and 14.

On page 9, line 2, " $204_{xn}$ " should be --- 20 $4_{xu}$ --- to be in accordance with Figure 2.

On page 12, line 26, "mobile station" should be ---base station---.

On page 13, line 1, "mobile station" should be ---base station---.

On page 14, line 23, the "receiver" is labeled "225" while Figure 1 labels the receiver "213".

On page 15, line 27, the "receiver" is labeled "225" while Figure 1 labels the receiver "213".

On page 16, line 1, the "receiver" is labeled "225" while Figure 1 labels the receiver "213".

On page 22, line 20, "variables n are '-" should be ---variables n are "+"---.

On page 22, line 21, "variables n are '-" should be ---variables n are "+"---.

On page 23, line 6, "variables n are '-'" should be ---variables n are "+"---.

On page 23, line 8, "to be '-'" should be ---to be "+"---.

On page 23, line 17, "If all the variables" should be --- If any of the variables---.

On page 23, line 19, "not '-'" should be ---not "+"---.

On page 23, line 20, "variables n are '+'" should be ---variables n are "-"---.

On page 23, line 21, "variables n are '+'" should be ---variables n are "-"---.

Appropriate correction is required.

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## Claim Objections

4. Claims 1-4 are objected to because of the following informalities:

In claim 1, line 16, to avoid problems of antecedent basis, "the allowable range" should be ---the predetermined allowable range---.

In claim 2, line 18, to avoid problems of antecedent basis, "the allowable range" should be ---the predetermined allowable range---.

In claim 3, line 3, to avoid problems of antecedent basis, "the allowable range" should be ---the predetermined allowable range---

In claim 3, line 4, to avoid confusion, "transmitter/receiver" should be --- transmitter or receiver---.

In claim 4, lines 3 and 5, to avoid problems of antecedent basis, "the allowable range" should be ---the predetermined allowable range---.

In claim 4, line 4, to avoid confusion, "transmitter/receiver" should be --- transmitter or receiver---.

Appropriate correction is required.

# Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 5 and 6 are rejected under 35 U.S.C. 112, first paragraph, as failing to

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comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Parent claim 3 specifies "that if said difference checking means determines that the difference falls outside the allowable range for all of said plurality of communication terminals, said failure determining means determines that a transmitter/receiver of said main apparatus has a failure."

The specification indicates that "whether the difference between the upstream and downstream signal propagation losses  $L_{nu}$  and  $L_{nd}$  is within the allowable range ("0"), larger than the allowable range ("+"), or smaller than the allowable range ("-") is checked for each of the first to Nth mobile stations  $203_1$  to  $203_N$  in order from the first mobile station  $203_1$ " (page 21, lines 6-12).

Turning to Figure 5, step "S321" determines whether the difference falls within the allowable range for all of said plurality of communication terminals and therefore if any of the differences fall outside the allowable range, step "S321" produces a "NO" result.

Claim 3 indicates that "if said difference checking means determines that the difference falls outside the allowable range for all of said plurality of communication terminals, said failure determining means determines that a transmitter/receiver of said main apparatus has a failure". In order for all of the differences to be outside the allowable range, all of the differences (i.e. variables) must either be a "+" or a "-".

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These conditions correspond to "YES" outputs of steps "S323" and "S328" and, as indicated by claim 3, if all of the differences (i.e. variables) are either a "+" or a "-", steps "S324" and "S329" are executed, determining either transmitter or receiver failure of the main apparatus.

Claim 5 further limits parent claim 3 to further specify that "if it is determined that a propagation loss of a propagation path to said main apparatus is smaller than a propagation loss of a propagation path to each communication terminal, said failure determining means determines that a transmitter of said main apparatus has failed, and, otherwise, said failure determining means determines that a receiver of said main apparatus has failed."

The specification indicates "if the upstream signal propagation loss  $L_{nu}$  is larger than the downstream signal propagation loss  $L_{nd}$ ..."+" is recorded in that portion of the buffer memory... and if the upstream signal propagation loss  $L_{nu}$  is smaller than the downstream signal propagation loss  $L_{nd}$ ... "-" is recorded in that portion of the buffer memory..." (page 20, line 20 to page 21, line 3).

The specification also describes "an arbitrary mobile station X, an Xth upstream propagation path  $204_{x[u]}$ , an Xth downstream propagation path  $204_{xd}$ , and the base station" (page 9, lines 1-3 and Figure 2), which can be seen that upstream corresponds to that path to the base station (i.e. main apparatus) and downstream corresponds to the path to the mobile station (i.e. communication apparatus).

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Since a "+" condition indicates that the upstream signal propagation loss is larger than the downstream signal propagation loss, and an upstream path is to the main apparatus with a downstream path to the communication apparatus, a "+" condition indicates that the propagation loss of a path to the main apparatus is larger than the propagation loss of a path to the communication apparatus,

Similarly, since a "-" condition indicates that the upstream signal propagation loss is smaller than the downstream signal propagation loss, and an upstream path is to the main apparatus with a downstream path to the communication apparatus, a "-" condition indicates that the propagation loss of a path to the main apparatus is smaller than the propagation loss of a path to the communication apparatus.

Turning back to Figure 5, step "S323" determines if "'+' FOR ALL VARIABLES n?" and, in a "YES" condition, "DETERMINE THAT TRANSMITTER OF BASE STATION HAS FAILED". Figure 5, step "S328" determines if "'-" FOR ALL VARIABLES n?" and, in a "YES" condition, "DETERMINE THAT RECEIVER OF BASE STATION HAS FAILED".

Substituting for the "+" condition determined above, if the propagation loss of a propagation path to the main apparatus is larger than the propagation loss of a path to the communication apparatus (i.e. "+"), "DETERMINE THAT TRANSMITTER OF BASE STATION HAS FAILED".

Substituting for the "-" condition determined above, the propagation loss of a propagation path to the main apparatus is smaller than the propagation loss of a

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path to the communication apparatus (i.e. "-"), "DETERMINE THAT RECEIVER OF BASE STATION HAS FAILED".

Claim 5, however, indicates "if it is determined that a propagation loss of a propagation path to said main apparatus is smaller than a propagation loss of a propagation path to each communication terminal, said failure determining means determines that a transmitter of said main apparatus has failed, and, otherwise, said failure determining means determines that a receiver of said main apparatus has failed." This limitation, is therefore, not sufficiently enabled by the specification to indicate to one having ordinary skill in the art how to make/use the invention as provided in claim 5.

Claim 6 is similarly rejected because it recites, "if it is determined that a propagation loss of a propagation path to said main apparatus is smaller than a propagation loss of a propagation path to each communication terminal, said failure determining means determines that a receiver of a communication terminal found to fall outside the allowable range has failed, and, otherwise, said failure determining means determines that a transmitter of a communication terminal found to fall outside the allowable range has failed."

Turning back to Figure 5, step "S325" determines if "'+' FOR CERTAIN

VARIABLE n?" and, in a "YES" condition, "DETERMINE THAT RECEIVER OF

CORRESPONDING MOBILE STATION HAS FAILED". Figure 5, step "S330"

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determines for any other condition (i.e. the remaining "-" condition) "DETERMINE THAT TRANSMITTER OF CORRESPONDING MOBILE STATION HAS FAILED".

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Substituting for the "+" condition determined above, if the propagation loss of a propagation path to the main apparatus is larger than the propagation loss of a path to the communication apparatus (i.e. "+"), "DETERMINE THAT RECEIVER OF CORRESPONDING MOBILE STATION HAS FAILED".

Substituting for the "-" condition determined above, the propagation loss of a propagation path to the main apparatus is smaller than the propagation loss of a path to the communication apparatus (i.e. "-"), "DETERMINE THAT TRANSMITTER OF CORRESPONDING MOBILE STATION HAS FAILED".

Claim 6, however, indicates "if it is determined that a propagation loss of a propagation path to said main apparatus is smaller than a propagation loss of a propagation path to each communication terminal, said failure determining means determines that a receiver of a communication terminal found to fall outside the allowable range has failed, and, otherwise, said failure determining means determines that a transmitter of a communication terminal found to fall outside the allowable range has failed." This limitation, is therefore, not sufficiently enabled by the specification to indicate to one having ordinary skill in the art how to make/use the invention as provided in claim 6.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is considered to be vague and indefinite because it recites "from the two powers output from said notification receiving means and the two powers output from said determining means". Claim 1, however, does not include a previous mention of any "powers output" from the notification receiving means or from the determining means. Therefore it is unclear to one having ordinary skill in the art as to what powers "the two powers output from said notification receiving means and the two powers output from said determining means" refer.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph because it recites "from the two powers output from said notification means and the two powers output from said determining means". This limitation is first unclear because neither claims 2 nor parent claim 1, include a previous mention of any "powers output" from the notification receiving means or from the determining means. Therefore it is unclear to one having ordinary skill in the art as to what powers "the two powers output from said notification receiving means and the two powers output from said determining means" refer. This limitation is further unclear because claim 2 specifies that "said notification receiving means receives, from each of said plurality of communication terminals of a communication partner, notification of both reception power of a signal transmitted from said main apparatus and transmission power of a signal transmitted

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to said main apparatus" and "said determining means determines, for each communication terminal, the reception powers from said plurality of communication terminals and the transmission powers to said plurality of communication terminals". Therefore, in addition to the fact that there is no power that is designated as being "output", the notification receiving means and determining means each receive a plurality of powers, thereby rendering it unclear to one having ordinary skill in the art as to what "two powers" are being referred.

Similarly, claim 2 is also considered to be vague and indefinite for reciting "said difference checking means checks whether a difference between the propagation losses falls within a predetermined allowable range". Claim 2 already recites "said propagation loss calculating means calculates bidirectional propagation losses between each communication terminal and said main apparatus" thereby calculating a plurality of propagation losses. Since a plurality of propagation losses are calculated it is unclear to one having ordinary skill in the art as to what particular propagation losses "the propagation losses" refers.

The term "some" in claim 4 is a relative term which renders the claim indefinite.

The term "some" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim 7 is considered to be vague and indefinite because it recites "if it is determined that a propagation loss of a propagation path to said main apparatus is equal to a propagation loss of a propagation path to each communication terminal".

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Claim 1, however, only refers to "at least one communication terminal" and therefore since "each" is generally defined as "being one of two or more considered individually" it is unclear to one having ordinary skill in the art as to what two or more communication terminals "each communication terminal" refers.

Claims 3, 5, 6, and 8 are rejected under 35 U.S.C. 112, second paragraph, because they incorporate the lack of clarity present in their respective parent claims.

#### Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- 10. Claims 1, 2, 4, and 7, as may best be understood, are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,542,097 to Ward et al.

With respect to claim 1, Ward discloses a failure detecting device characterized by comprising notification receiving means for receiving, from at least one communication terminal of a communication partner (column 9, lines 28-40 and Figure 6), notification of both reception power of a signal transmitted from a main apparatus (column 6, lines 61-62) and transmission power of a signal transmitted to said main apparatus (column 6, line 66), determining means for determining the reception power from said communication terminal (column 6, lines 57-58) and the transmission power to said communication terminal (column 6, line 56), propagation

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loss calculating means for calculating bidirectional propagation losses between said communication terminal and main apparatus, from the two powers output from said notification receiving means and the two powers output from said determining means (column 7, lines 16-38), difference checking means for checking whether a difference between the propagation losses falls within a predetermined allowable range (column 8, lines 34-48); and failure determining means for determining that a transmitter/receiver of at least one of said communication terminal and main apparatus has a failure, if said difference checking means determines that the difference falls outside the allowable range (column 9, lines 1-27).

With respect to claim 2, Ward discloses further comprising a plurality of communication terminals (column 6, lines 57-67), wherein said notification receiving means receives, from each of said plurality of communication terminals of a communication partner (column 6, lines 57-67), notification of both reception power of a signal transmitted from said main apparatus (column 6, lines 61-62) and transmission power of a signal transmitted to said main apparatus (column 6, line 66), said determining means determines, for each communication terminal, the reception powers from said plurality of communication terminals (column 6, lines 57-60) and the transmission powers to said plurality of communication terminals (column 6, line 56), said propagation loss calculating means calculates bidirectional propagation losses between each communication terminal and said main apparatus, from the two powers output from said notification receiving means and the two powers output from said determining means (column 7, lines 16-38), said difference

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checking means checks whether a difference between the propagation losses falls within a predetermined allowable range (column 8, lines 34-48), and said failure determining means determines that a transmitter/receiver of at least one of said communication terminal and main apparatus has a failure, if said difference checking means determines that the difference falls outside the allowable range (column 9, lines 1-27).

With respect to claim 4, Ward discloses that if said difference checking means determines that the difference falls outside the allowable range for some of said plurality of communication terminals, said failure determining means determines that a transmitter/receiver of each of said communication terminals, which is found to fall outside the allowable range has a failure (column 6, lines 57-67 and column 9, lines 1-27).

With respect to claim 7, Ward discloses that if it is determined that a propagation loss of a propagation path to said main apparatus is equal to a propagation loss of a propagation path to each communication terminal, said failure determining means determines that said communication terminal and main apparatus are normal (column 9, lines 1-27).

# Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

<sup>(</sup>a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claim 3, as may best be understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Ward in view of U.S. Patent Application Publication No. 2002/0058493 to Ikeda et al.

As noted above, the invention of Ward teaches many of the features of the claimed invention and while Ward does teach a difference checking means that determines whether there is a failure in the communication terminals when the difference falls outside the allowable range, Ward does not explicitly indicate that when the difference falls outside the allowable range for all of the communication terminals, a determination is made that a transmitter/receiver of the main apparatus has a failure.

Ikeda teaches a retransmission control method and apparatus comprising a plurality of receivers that receive a signal transmitted from a main apparatus (0010, lines 1-2) and the plurality of receivers determine if the signal was received correctly or in error (0047, lines 1-4) wherein if all of the plurality of receivers receive the signal in error, it is the signal transmitted from the main apparatus (i.e. a failure in the main apparatus transmitter) that is has caused the error and the not plurality of receivers (0064, lines 5-11).

It would have been obvious to one having ordinary skill in the art to explicitly indicate that when the difference falls outside the allowable range for all of the communication terminals, a determination is made that a transmitter/receiver of the main apparatus has a failure, as taught by Ikeda, because, as suggested by Ikeda,

and as one having ordinary skill in the art would recognize, when all of a plurality of receivers receive a signal in error, there is a high probability that it is the signal sent that contains an error as opposed to each of the receivers having error (0052, lines 1-13 and 0064, lines 5-11), therefore the combination would have improved the fault diagnosis of Ward by logically determining when the signal is in error from a faulty main apparatus and not from the communication terminals themselves.

13. Claim 8, as may best be understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Ward in view of JP Patent Application Publication No. 63-200626 to Iwasaki et al.

As noted above, the invention of Ward teaches many of the features of the claimed invention and while Ward does teach a difference checking means that determines whether there is a failure in the communication terminals when the difference falls outside the allowable range, Ward does not explicitly include a failure notifying means for notifying said communication terminal of a detected failure.

Iwasaki teaches an inductive communication system including a base station that determines when a propagation loss between a mobile station and the base station reaches a prescribed value and, using a corresponding means, notifies the base station of such propagation loss failure (abstract).

It would have been obvious to one having ordinary skill in the art to modify the invention of Ward to explicitly include a failure notifying means for notifying said communication terminal of a detected failure, as taught by Iwasaki, because, as

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suggested by Iwasaki, the combination would have improved the operation of Ward by preventing operation of the communication terminal with excessive propagation loss due to failed transmission by raising an alarm when the propagation loss reaches a prescribed value (Abstract).

#### Conclusion

- 14. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure:
- U.S. Patent No. 6,278,879 to Western et al. teaches a method for determining a transmit power of a base station in a cellular communication system.
- U.S. Patent Application Publication No. 2002/0016177 to Miya et al. teaches a transmission power control apparatus and radio communication apparatus.
- U.S. Patent No. 5,487,176 to Yoneyama teaches a reception amplifier failure detection device and method for radio transceiver apparatus.
- U.S. Patent No. 4,807,224 to Naron et al. teaches a multicast data distribution system and method.
- U.S. Patent No. 6,400,953 to Furukawa teaches a CDMA type mobile radio communication system capable of realizing an effective system operation without excess and deficiency of radio base station simultaneously connected.
- U.S. Patent No. 6,405,021 to Hamabe teaches a method of controlling transmission power in cellular system and base station apparatus.

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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. West whose telephone number is (571)272-2226. The examiner can normally be reached on Monday through Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)272-2216. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeffrey R. West

Examiner – AU 2857

May 1, 2006